Reviewer's report

Title: SEAS (Scientific Exercises Approach to Scoliosis): a modern neurophysiological evidence based approach to exercises for idiopathic scoliosis

Version: 2 Date: 11 September 2013

Reviewer: Marian H. Wade

Reviewer's report:

Major Compulsory Revisions: I had some trouble figuring out which category of "article type" this would fit into. Does Methodology include clinical treatment methods? If so, this description of the SEAS method glosses over what is perhaps the most important part, which should be specifically how it goes about addressing and counteracting the scoliotic curvatures (apart from the fact that they are addressed in three dimensions). Alternatively, although the article quickly mentions various research studies of SEAS outcomes, it does not go into any detail, nor analyze the results in a way that would befit a review article. The authors and editors should decide which type of article this is and concentrate on fulfilling that objective; this article appears to be overambitious in its scope, and falls short on either front. I find it difficult as a reviewer to figure out which of the above-mentioned underdeveloped areas to concentrate on. If the authors wish this to be a Methodology article, they should eliminate the short summary research review section, because there is no room here to go into an in-depth description and analysis of the studies, and the short summaries subsequently come off as snippets of self-serving advertisements. Conversely, if the authors wish this to be a review article, then the methodology should concisely describe all aspects of the treatment that are mentioned (including examples of specific ways to address curvature autocorrections, and what is involved in managing patients and families) but should also be condensed and rewritten in better English, and the review section would then need to be expanded significantly to include details about how each of the studies were performed and an analysis and synthesis of all the findings. Although it would appear to take more work to expand the sections needed to make this article into a true review article, this path would lead to an article of greatly increased importance and merit -- much more than if the article were left as simply a description of a treatment methodology (plus the present inclusion of a quick summary of research articles that are not described, so the reader at present is forced to put his or her faith in the author's word, without the benefit of being able to assess for him- or herself the merits of the studies). I therefore strongly advise the authors to make three revisions: 1) Touch on all aspects of the treatment method that are mentioned, giving descriptive examples of curvature autocorrections and patient and family management, in addition to the examples you already give regarding the exercises themselves. The treatment methodology section should be broadened to include more aspects of the treatment but condensed into a much more concise narrative. 2) Describe each research study you mention in more depth,
including samples, methodology and analyses, and critically review them all in a cohesive narrative. This should be the most important part of the article, which explains to the reader why he or she should care about learning more about the SEAS method; 3) The article is clearly not written by a native English speaker and employs awkward language throughout. The English needs to be revised by a native English speaker before publication; 4) The authors should be careful about the claim that the method has, or can be, used in place of a brace. Unless there are substantial research results that indicate the fitness of the SEAS method as a replacement for a brace, this would seem to be a dangerous claim. At the very least, the authors should consider adding a disclaimer here about how much more research needs to be done to answer this question, and that readers would be wise not to take these claims as fact and decide to abandon brace use as a treatment.

Minor Essential Revisions: Many, but are included in English revisions cited above.

Discretionary Revisions: I would recommend the term "Motor Learning" rather than "Neurophysiological".

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.